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THE OPERATIVE TREATMENT OF MAMMARY CARCINOMA, WITH NOTES OF A CASE IN WHICH PORTIONS OF THE AXILLARY ARTERY AND VEIN WERE REMOVED WITH ADHERENT CARCINOMATOUS GLANDS.

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WATSON CHEYNE (Treves' *System of Surgery*, vol. ii., p. 829) in discussing the operative treatment of advanced cases of mammary carcinoma, in which the axillary vessels are involved in the glandular mass, describes the method of operation adopted by Lister. This involves amputation of the upper limb. Cheyne details a case of involvement of the vessels in which he successfully removed portions of both axillary vessels, and concludes "that, seeing it is possible to remove both axillary artery and vein without the loss of vitality of the arm, it can hardly be necessary to amputate the arm at the shoulder joint with the view of eradicating the disease."

The history of the following case lends support to Mr. Cheyne's view:

Mrs. L., aet. 60, was sent to me on June 6th, 1900, by Dr. P. Thomson. There was present in the right mamma a carcinomatous tumour of hen's egg size, adherent to the pectoralis major; and in the axilla a hard glandular mass.

At the operation I removed mamma, pectorales, and axillary contents in one mass. Dissection of the axillary vessels from the surrounding glandular mass proved difficult, and I, therefore, removed portions of  $1\frac{1}{2}$  and 3 inches respectively of



FIGURE 1.



Portions of axillary artery (1½ inch) and vein (4 inches) excised in the course of operation for removal of mammary carcinoma. Into the lumen of the artery projects a carcinomatous bud from a carcinomatous gland, which had invaded the vessel wall.

FIGURE II.



Mamma, pectorales (major and minor), with portions of ribs and cartilages removed by operation for mammary carcinoma. In the inner half of the mamma is seen the carcinomatous tumour, into which an exploratory section was made during the operation. The axillary contents and the costal periosteum and intercostal muscles removed are not shown in the photograph.





axillary artery and vein. The accompanying illustration (Fig. I.) is a reproduction of a photograph of the portions removed.

Despite the fact that the patient was of feeble strength and constitutionally unsound, the capillary circulation in the hand was found to be fully restored ten hours after operation. The patient made a satisfactory recovery, and remains well up to the date of writing this, though it is obvious that the chances of the removal having been radical in her advanced case are less than in many.

In the matter of the treatment of earlier or favourable cases modern surgical authors agree that the statistics of recurrence after operation are becoming yearly more favourable, and that this is to be attributed largely, if not entirely, to the increasing thoroughness and magnitude of the operations performed. The investigations of Heidenhain, Stiles, and others have done much to demonstrate the need for very wide and free removal of skin, fat, and lymphatics of both mammary and axillary regions if eradication is to be attained, while gradual improvement in operative technique has rendered singularly safe an operation which involves one of the largest, if not quite the largest, wound of present-day surgery.

Whether the routine operation should include, in addition to removal of all the axillary fat and glands, removal of the pectorales is a question which, despite the able advocacy of Halsted and others, may perhaps be still regarded as *sub judice*. During the past five years I have removed the pectoral muscles in every case operated on with three exceptions. So far, experience has led me to form the following opinions:—(a) The removal of the pectorals adds little to the severity of the operation, and does not prolong the period of healing. (b) That Halsted is right when he states that the resulting disability in the arm is trivial. (c) The removal of these muscles greatly facilitates the dissection of the apex of the axilla and subclavian region. (d) By reducing the bulk of tissue to be covered removal of the pectorals permits more free removal of skin.

With reference to the comparative freedom from recurrence of the two methods, statistics are not yet sufficiently full to prove convincing. While impressed with the "thoroughness"

of the eradication possible after removal of the pectorals one has seen very complete dissections of the axilla performed without it, with gratifying results. Personally I have under observation cases in which the operation took the older, or less extensive, form in which the patients have remained free from recurrence for periods of nine and ten years respectively, and in the hands of senior surgeons are numerous cases with longer periods of freedom.

At the present time it may perhaps fairly be said that in advanced cases, such as that of Mrs. L. (*vide supra*), removal of the pectorals is essential to the completion of the operation, while in earlier cases it appears to make the assurance of complete removal doubly sure.

#### ADDENDUM.

While the foregoing was in the press, I operated on the following case:—Miss B., sent to me by Dr. C. Fred. Pollock. The patient is of spare build, and middle age. She suffered from a carcinoma in the inner half of the left mamma. The mass appeared to be freely movable on the chest wall, and non-adherent to the pectoralis. There were no glands tangible in the axilla.

At the operation (Feb. 3rd, 1901) the mamma was removed, and, with it, both pectoral muscles and the entire axillary contents. On raising the inner part of the pectoralis major from the ribs there were found two “beaded” lymphatic vessels running down to the intercostal spaces. The operation was, therefore, completed by the removal of portions of three ribs and costal cartilages in the region of these infected lymphatics, with as much of the periosteum and intercostal muscles as could be detached from the pericardium and pleura without opening these. (Fig. II.) The patient made a perfect recovery, the wound healing by first intention.

It may not, perhaps, be confidently hoped that the removal of these tissues has markedly brightened the prospects of this case. The removal of the pectorals did, however, reveal the involvement of the thoracic wall, which had not been suggested by the facts of the case previous to operation, and which during

the operation would almost certainly, but for the removal of these muscles, have escaped detection. The measure therefore, in this instance, assured the placing of the case in the proper statistical category.





